

IN THE CLAIMS

The current listing of the claims replaces all previous amendments and listings of the claims.

Claim 1 (Currently Amended): A plasma treatment apparatus comprising:

a vacuum vessel that houses an article to be treated and into which a treatment gas is introduced;

a lower electrode that is provided inside said vacuum vessel and onto which is placed the article to be treated;

an upper electrode main body that is provided above said lower electrode to form a plasma region in said vacuum vessel, said upper electrode main body having formed therein an opening through which passes light for detecting an extent of progress of plasma treatment of the article to be treated in the plasma region;

an upper electrode cover that is joined to a lower surface of said upper electrode main body and faces the plasma region, said upper electrode cover having formed therein a hole at a location corresponding to the opening of said upper electrode main body;

a sensor that detects the extent of progress of plasma treatment of the article to be treated by detecting changes in intensity of reflected light from the article to be treated;

a tubular member that is provided in the vacuum vessel with a lower end thereof inserted in the opening; and

a window member that is made of a transparent member which is a separate body to the upper electrode cover, and is removably fitted in the hole of said upper electrode cover.

Claim 2 (Currently Amended): An upper electrode cover for a plasma treatment apparatus, the plasma treatment apparatus comprising a vacuum vessel that houses an article to be treated and into which a treatment gas is introduced, a lower electrode that is provided

inside the vacuum vessel and onto which is placed the article to be treated, and an upper electrode main body that is provided above the lower electrode to form a plasma region in the vacuum vessel, the upper electrode main body having formed therein an opening through which passes light for detecting an extent of progress of plasma treatment of the article to be treated in the plasma region, a sensor that detects the extent of progress of plasma treatment of the article to be treated by detecting changes in intensity of reflected light from the article to be treated, a tubular member that is provided in the vacuum vessel with a lower end thereof inserted in the opening, and a window member that is made of a transparent member which is a separate body to the upper electrode cover, and is removably fitted in a hole formed in the upper electrode cover,

wherein the upper electrode cover ~~has formed therein a~~ is joined to a lower surface of the upper electrode main body and faces the plasma region; and

the hole in which a window member is to be fitted, of the upper electrode cover is formed in the upper electrode cover at a location corresponding to the opening in the upper electrode main body, the hole having a shape complementary to a shape of the window member.

Claim 3 (Original): An upper electrode cover as claimed in claim 2, wherein the hole has a lower portion having a reduced diameter and an upper portion having an increased diameter.

Claim 4 (Original): An upper electrode cover as claimed in claim 2, wherein the hole opens into the plasma region.

Claim 5 (Original): An upper electrode cover as claimed in claim 2, which is made of quartz.

Claim 6 (Currently Amended): An upper electrode cover window member for a plasma treatment apparatus, the plasma treatment apparatus comprising a vacuum vessel that houses an article to be treated and into which a treatment gas is introduced, a lower electrode that is provided inside the vacuum vessel and onto which is placed the article to be treated, an upper electrode main body that is provided above the lower electrode to form a plasma region in the vacuum vessel, the upper electrode main body having formed therein an opening through which passes light for detecting an extent of progress of plasma treatment of the article to be treated in the plasma region, ~~and~~ an upper electrode cover that is joined to a lower surface of the upper electrode main body and faces the plasma region, the upper electrode cover having formed therein a hole at a location corresponding to the opening of the upper electrode main body, a sensor that detects the extent of progress of plasma treatment of the article to be treated by detecting changes in intensity of reflected light from the article to be treated, and a tubular member that is provided in the vacuum vessel with a lower end thereof inserted in the opening,

wherein:

the ~~upper electrode cover~~ window member comprises a transparent member ~~that~~ which is a separate body to the upper electrode cover, and is removably fitted in the hole of the upper electrode cover; and

the hole of the upper electrode cover has at least in part a shape complementary to a shape of ~~[[a]] the hole formed in of~~ the upper electrode cover at ~~[[a]] the~~ location corresponding to the opening in the upper electrode main body such that the ~~upper electrode cover~~ window member can be fitted in the hole.

Claim 7 (Original): An upper electrode cover window member as claimed in claim 6, wherein the hole has a lower portion having a reduced diameter and an upper portion having an increased diameter, and the upper electrode cover window member has a lower portion having a reduced diameter and an upper portion having an increased diameter that can be fitted in the lower portion and upper portion of the hole, respectively.

Claim 8 (Currently Amended): An upper electrode cover window member as claimed in claim 6, wherein the hole has a lower portion having a reduced diameter and an upper portion having an increased diameter, and the upper electrode cover window member presents a vertically symmetrical shape having a lower portion having a reduced diameter, an intermediate portion having an increased diameter, and an upper portion having a reduced diameter that can be fitted in the lower portion of the hole, ~~the opening in the upper electrode main body, and the upper portion of the hole, and the opening in the upper electrode main~~ body, respectively.

Claim 9 (Original): An upper electrode cover window member as claimed in claim 6, which is made of quartz.

Claim 10 (Original): An upper electrode cover window member as claimed in claim 6, which is made of sapphire.